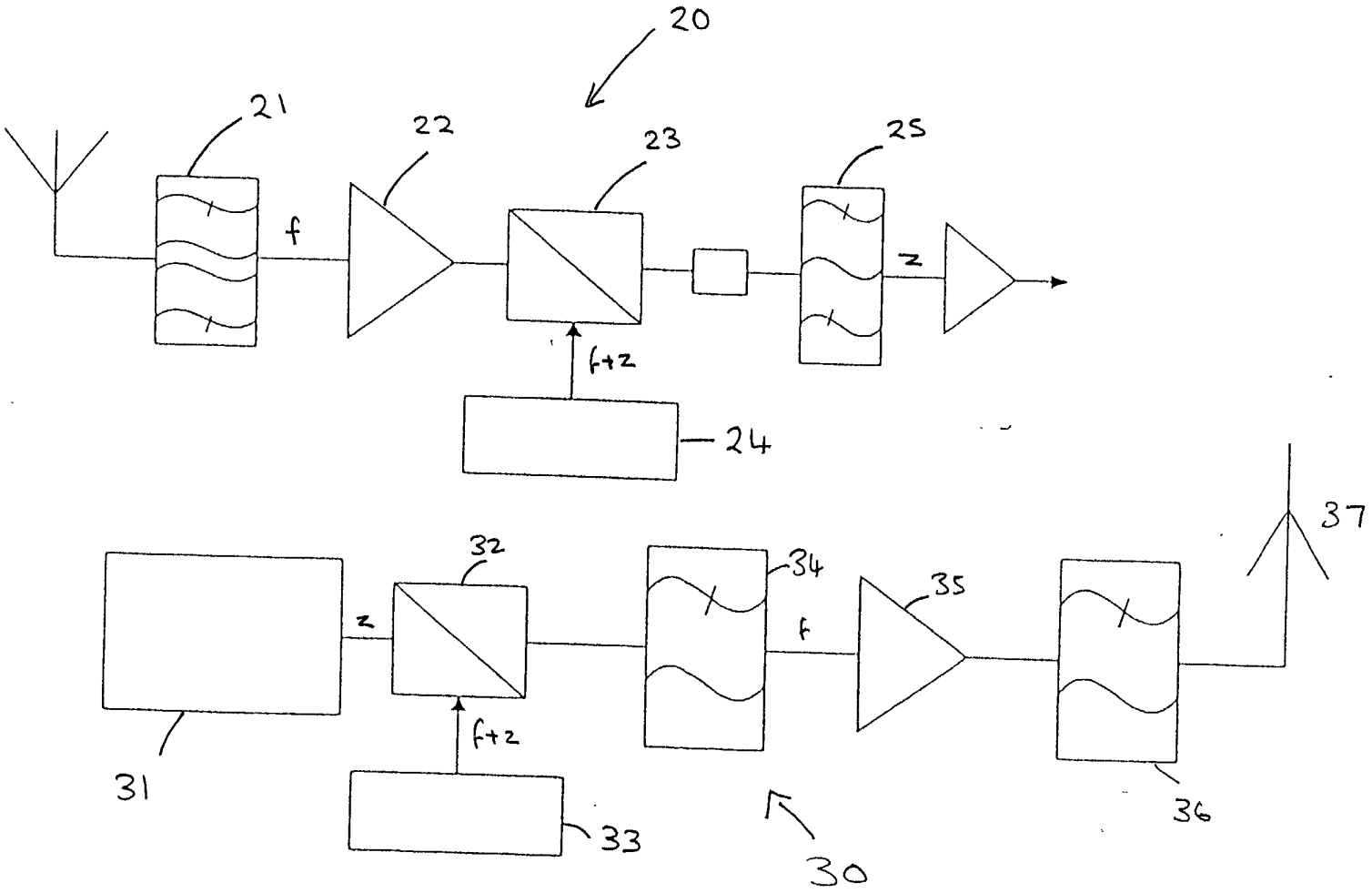
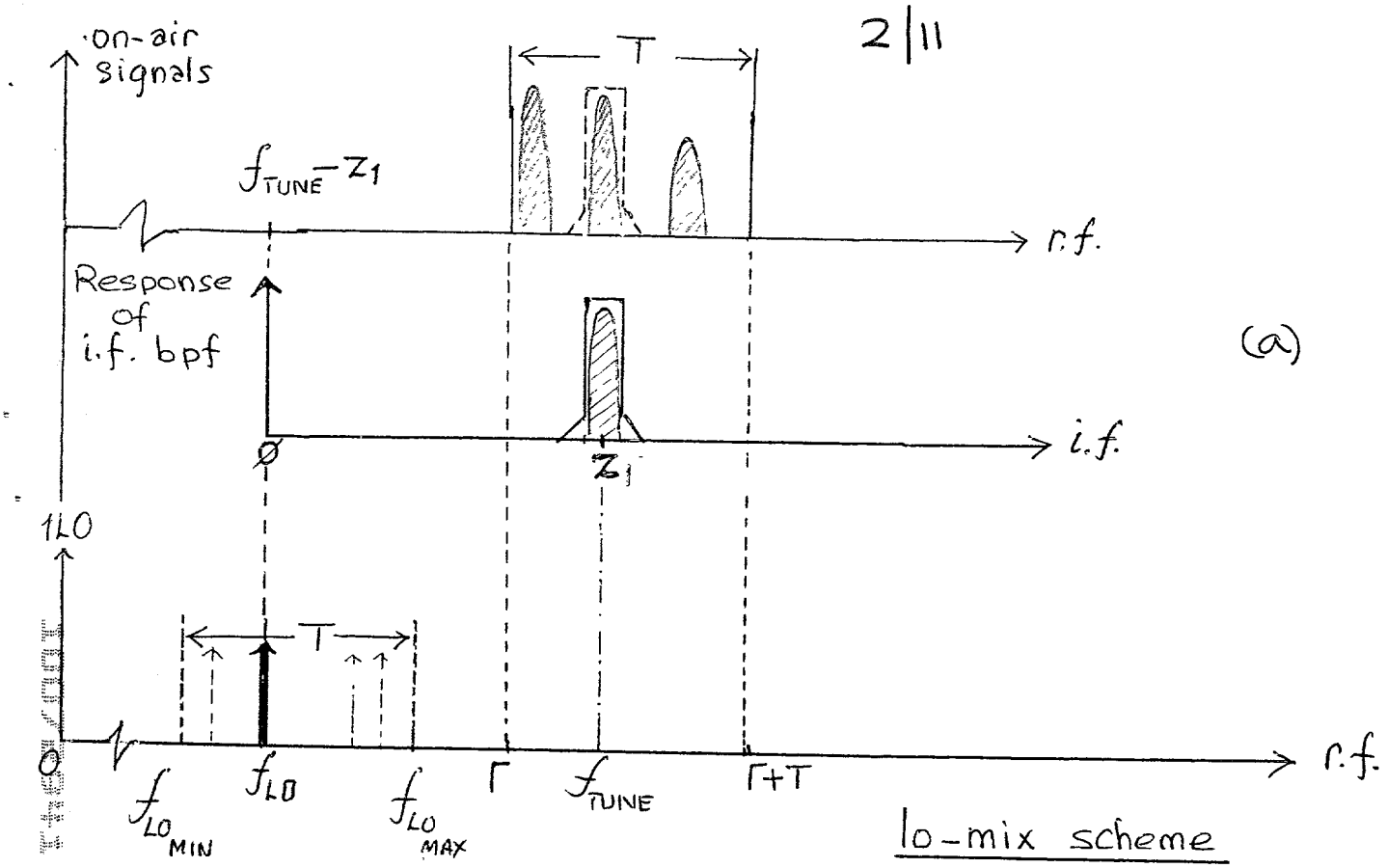


FIGURE 1


on-air signals
T
$f_{TUNE} - Z_1$
r.f.
Response of i.f. bpf
(a)
i.f.
Z_1
1LO
T
0
f_{LO}
$f_{LO_{MIN}}$
$f_{LO_{MAX}}$
Γ
f_{TUNE}
Γ+T
r.f.
lo-mix scheme

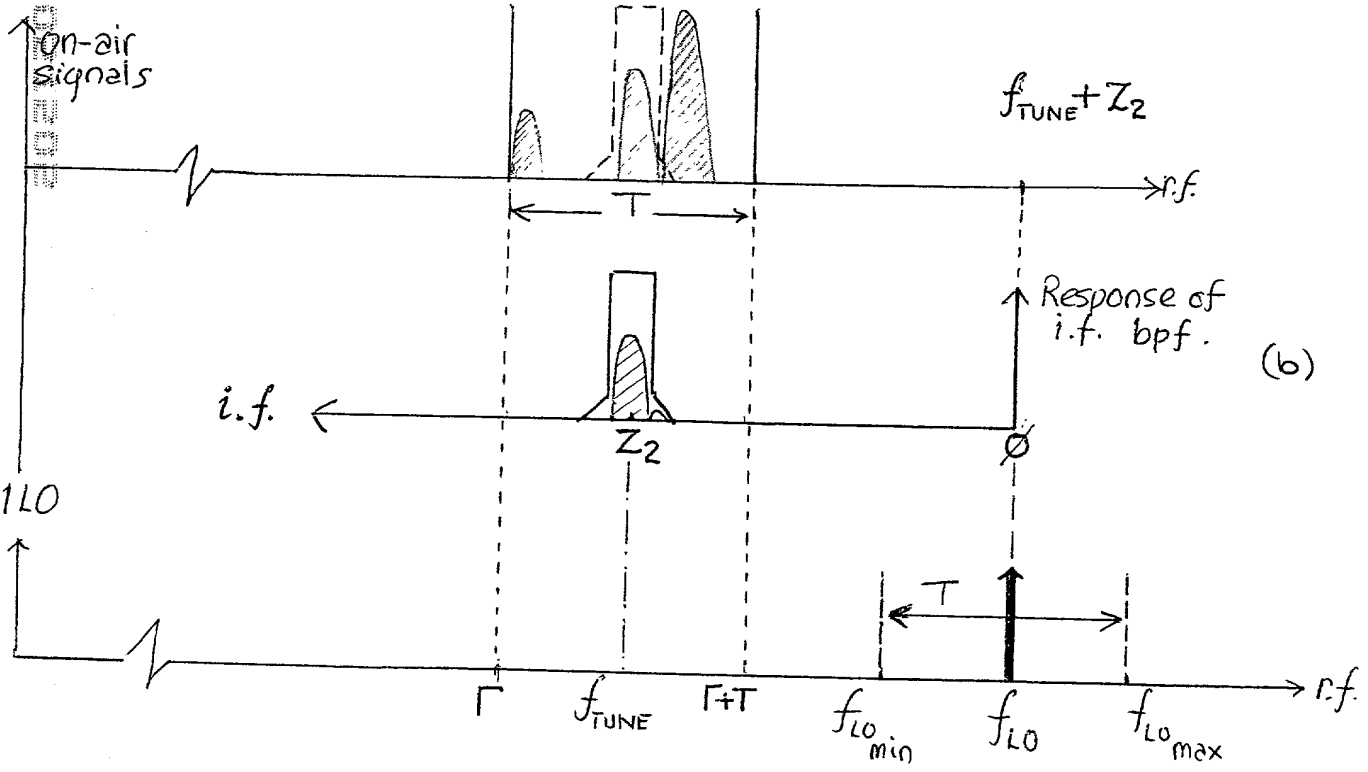
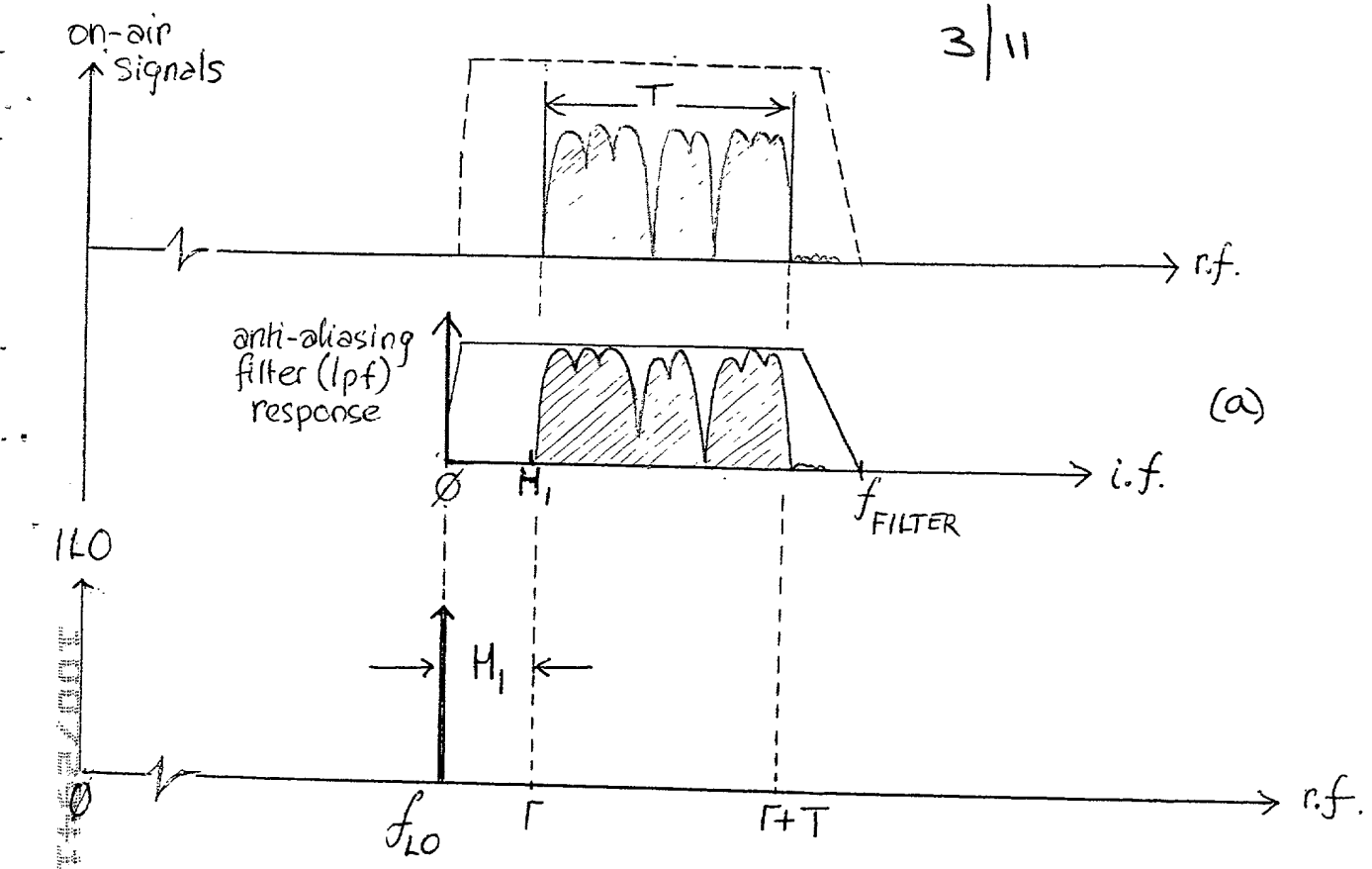

on-air signals
$f_{TUNE} + Z_2$
r.f.
T
Response of i.f. bpf.
(b)
i.f.
Z_2
1LO
T
Γ
f_{TUNE}
Γ+T
$f_{LO_{min}}$
f_{LO}
$f_{LO_{max}}$
r.f.
hi-mix scheme

FIGURE 2



lo-mix scheme

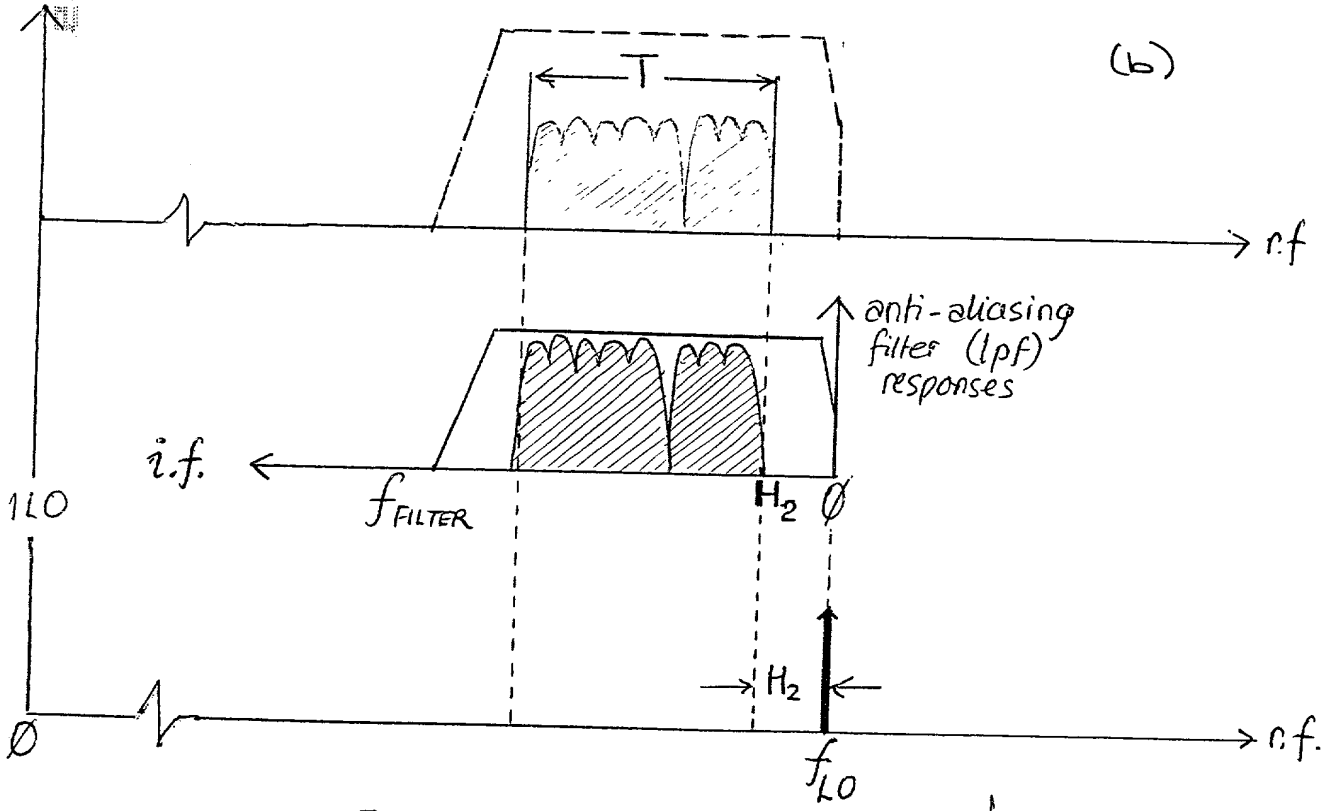


FIGURE 3.

hi-mix scheme

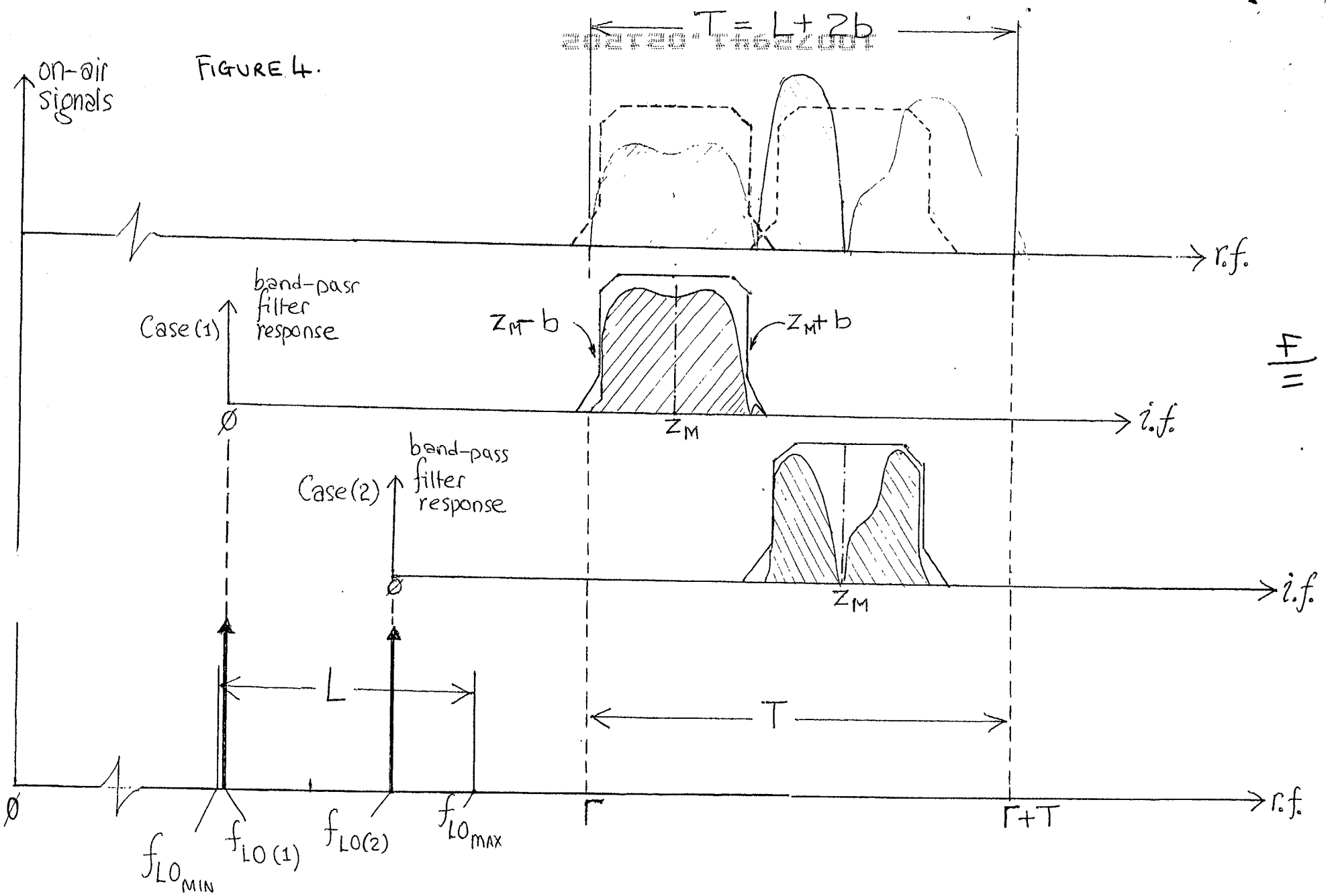


FIGURE 4.
on-air signals
T = L + 2b
r.f.
band-pass filter response
Case (1)
$z_M - b$
$z_M + b$
z_M
i.f.
band-pass filter response
Case (2)
z_M
i.f.
L
T
$f_{LO_{MIN}}$
$f_{LO(1)}$
$f_{LO(2)}$
$f_{LO_{MAX}}$
r
r+T
r.f.

ADDED ON 08/30/2007

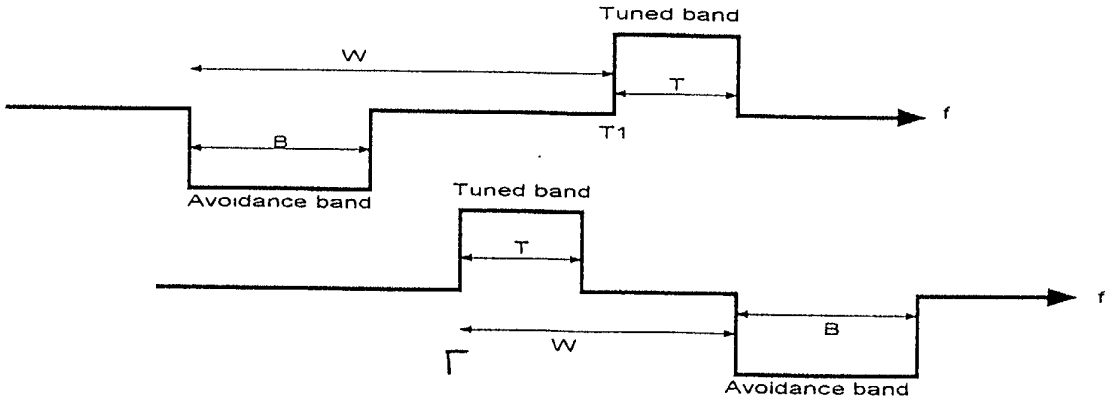


FIGURE 5

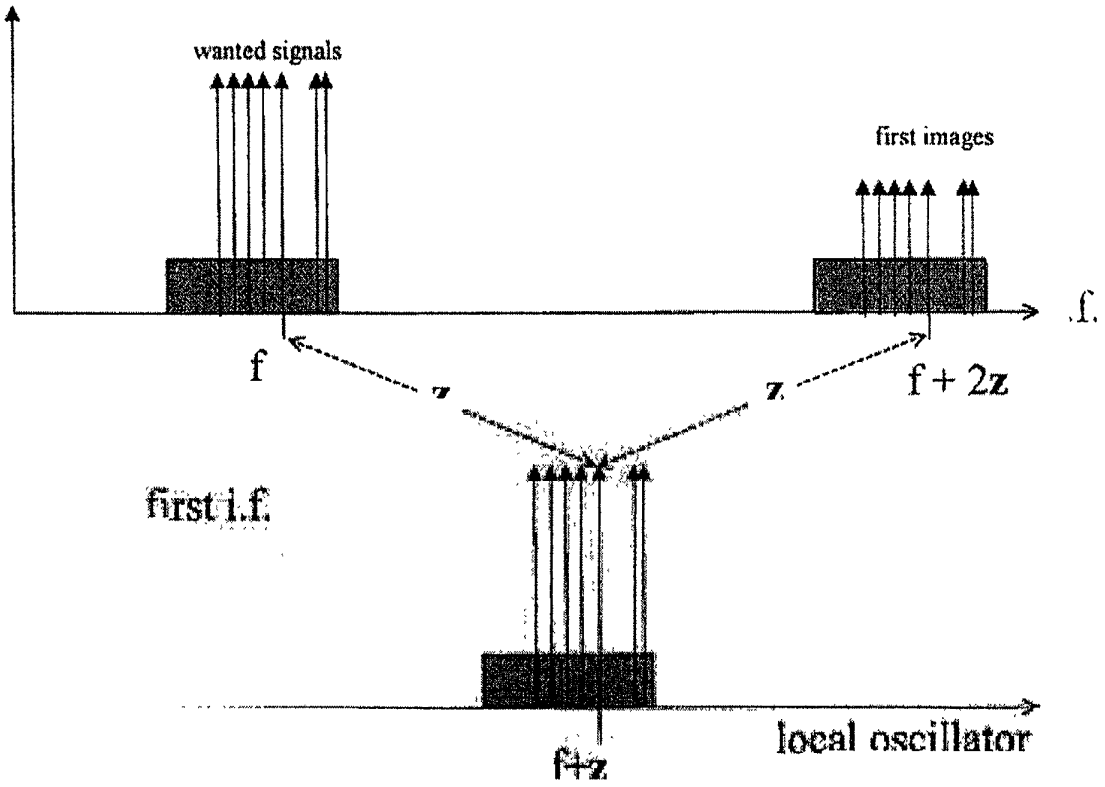


Figure 6 First Image Band

2027397 11/21/2007

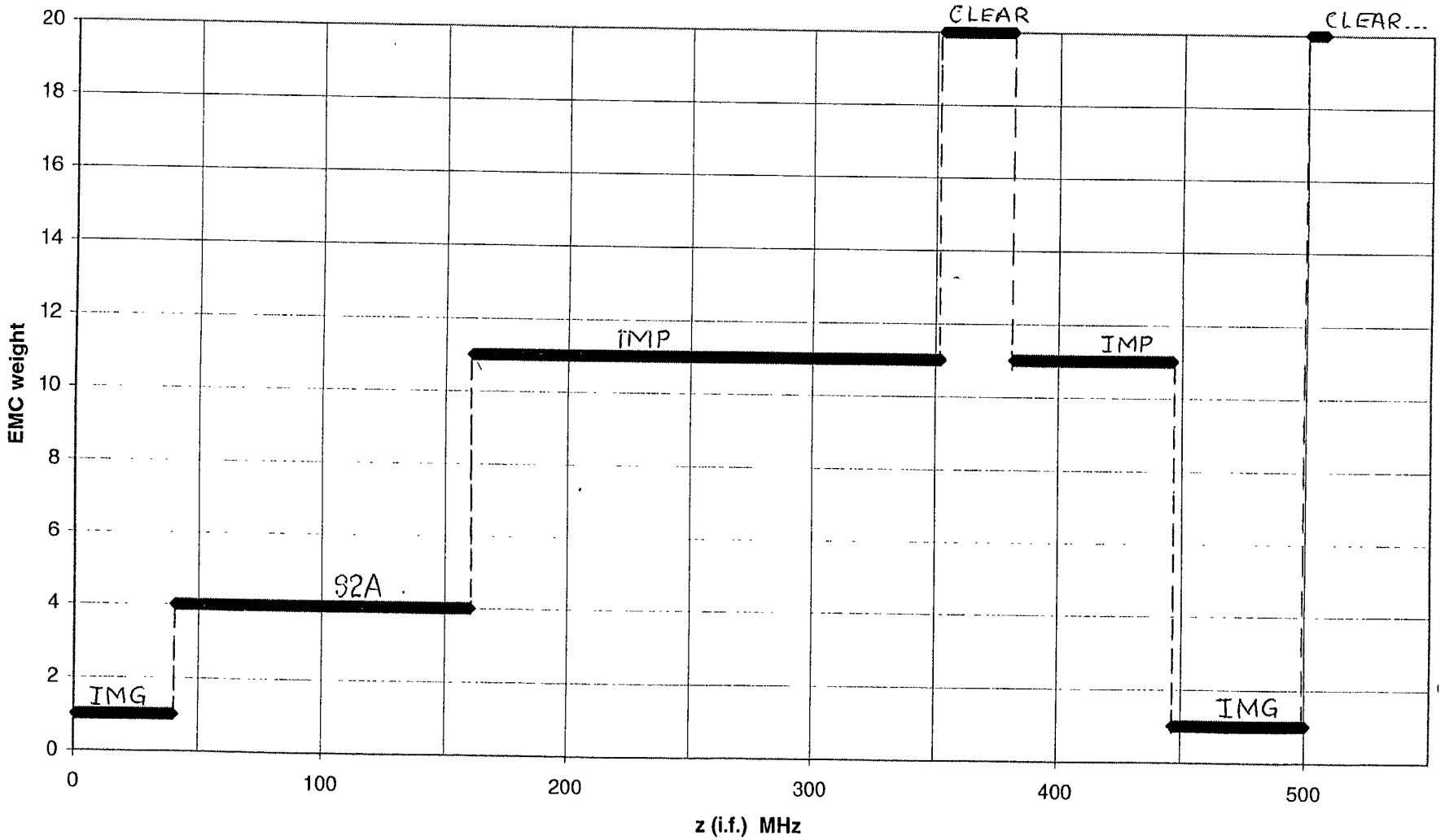


FIGURE 7

Better Tracer

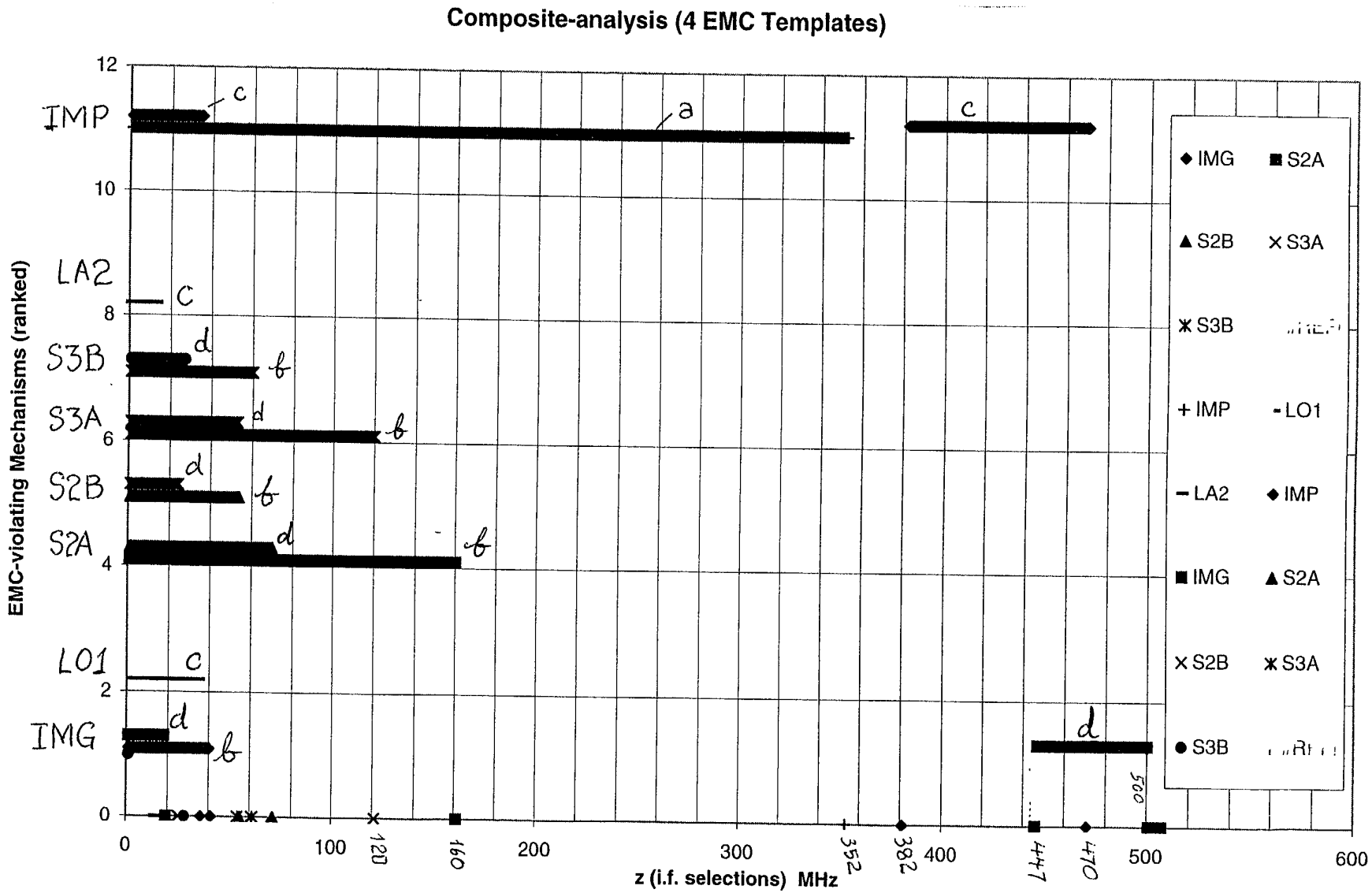


FIGURE 8

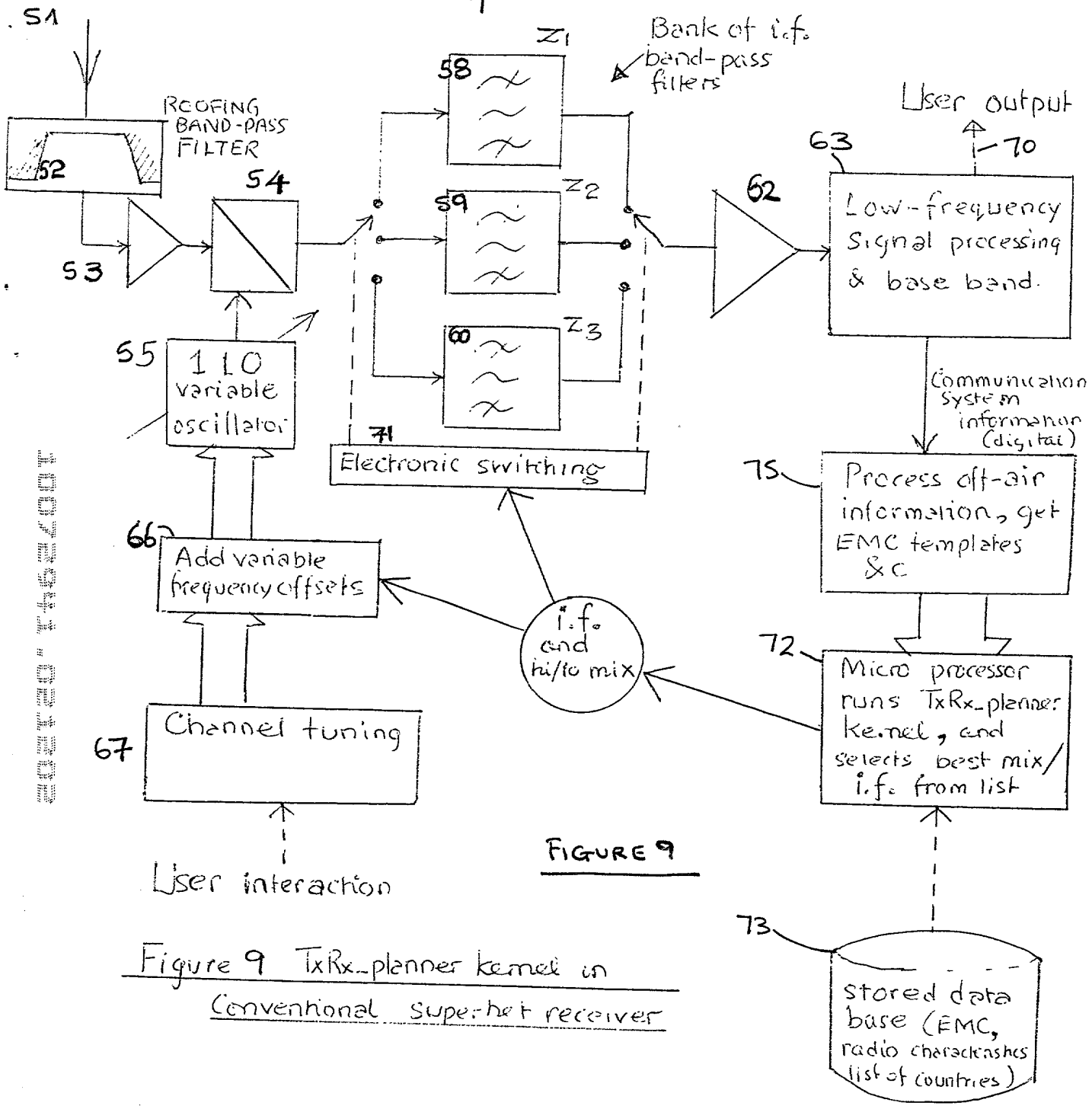


FIGURE 9

Figure 9 TxRx_planner kernel in Conventional superhet receiver

FIGURE 10

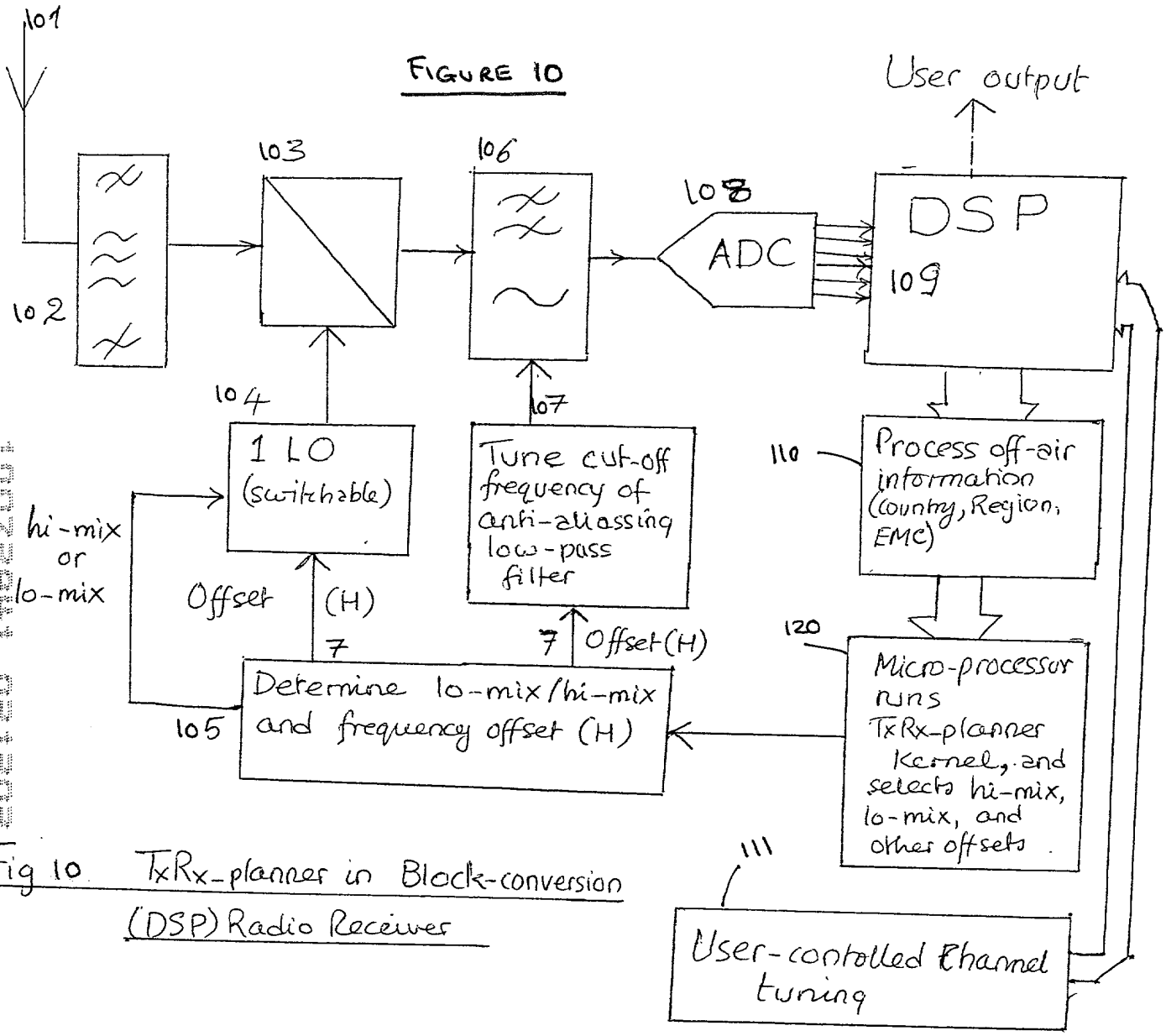
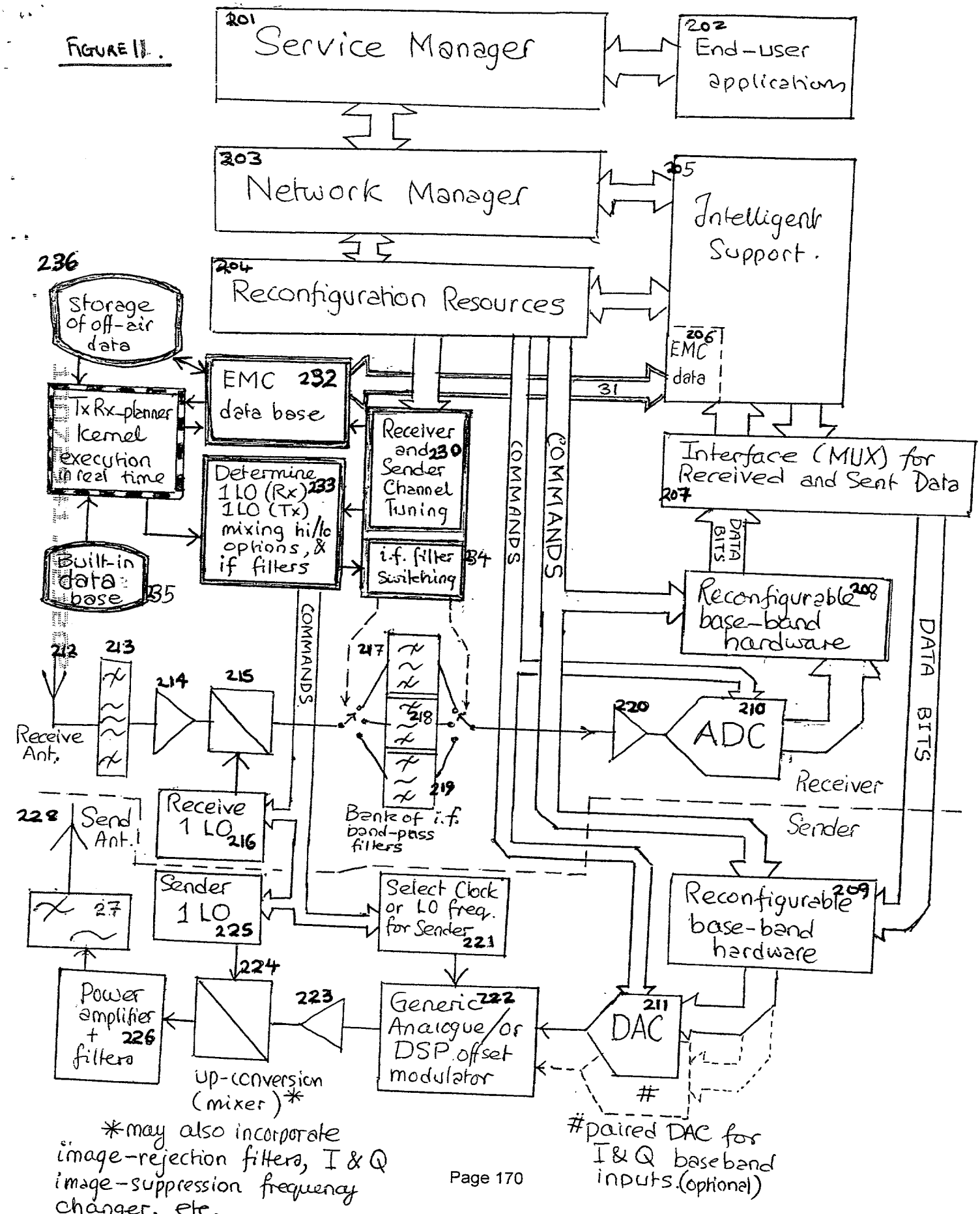


Fig 10 TxRx-planner in Block-conversion (DSP) Radio Receiver

FIGURE 11.


201 Service Manager
202 End-user applications
203 Network Manager
205 Intelligent Support
204 Reconfiguration Resources
206 EMC data
236 Storage of off-air data
EMC 232 data base
Tx Rx-planner kernel execution in real time
Determine 1LO (Rx) 233 1LO (Tx) mixing hi/lo options, & if filters
Receiver and Sender Channel Tuning 230
i.f. filter Switching 234
Built-in data base 235
31
COMMANDS
COMMANDS
Interface (MUX) for Received and Sent Data 207
DATA BITS
Reconfigurable base-band hardware 208
DATA BITS
212
213
214
215
217
218
219
220
210 ADC
Receive Ant.
Receiver
Sender
228 Send Ant.
Receive 1 LO 216
Bank of i.f. band-pass filters
27
Sender 1 LO 225
Select Clock or LO freq. for Sender 221
Reconfigurable 209 base-band hardware
224
Power amplifier + filters 226
223
Generic 222 Analogue/or DSP offset modulator
211 DAC
#
up-conversion (mixer)*
*may also incorporate image-rejection filters, I & Q image-suppression frequency changer, etc.
#paired DAC for I & Q baseband inputs (optional)